

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Previously Presented) A fail-safe control method for an internal combustion engine comprising:

determining when a throttle valve in an intake system of the internal combustion engine is stuck in a fixed position;

controlling a throttle aperture to maintain the throttle valve aperture in the fixed position and to increase the throttle valve aperture of the throttle valve when an amount of fuel injection is less than a prescribed amount, including zero;

operating a fail-safe control to ensure a prescribed torque in the engine; and

performing recovery diagnostics while fail-safe control is being performed to determine whether the fixed state of the throttle valve has been released.

4. (Previously Presented) A fail-safe control method for an internal combustion engine comprising:

determining when a throttle valve in an intake system of the internal combustion engine is stuck in a fixed position;

controlling a throttle valve aperture to maintain the throttle valve aperture in the fixed position;

operating a fail-safe control to ensure a prescribed torque in the engine, by increasing an amount of fuel injection beyond the amount of fuel injection set when normal control of air intake volume is performed when maintaining the throttle valve aperture in the fixed state.

5. (Previously Presented) The fail-safe control method of Claim 4, wherein

the operating of the fail-safe control further includes suppressing an occurrence of smoke when an air-fuel ratio is less than a prescribed mixture, or is a rich mixture, when the amount of fuel injection has been increased.

6. (Previously Presented) The fail-safe control method for an internal combustion engine described in Claim 5, wherein

the suppressing of the occurrence of smoke includes delaying a fuel injection timing more than when normal control is performed.

7. (Previously Presented) The fail-safe control method of Claim 5, wherein

the suppressing of the occurrence of smoke includes dividing the fuel injection during a combustion cycle into a reserve fuel injection and a main fuel injection so that a reserve fuel injection timing is advanced and a main fuel injection timing is delayed as compared to when normal control is performed.

8. (Previously Presented) The fail-safe control method of Claim 5,
wherein

the suppressing of the occurrence of smoke includes dividing the fuel injection during a combustion cycle into a reserve fuel injection and a main fuel injection so that a volume of the reserve fuel injection is reduced or eliminated as compared to during normal control.

9. (Previously Presented) The fail-safe control method of Claim 5,
wherein

the suppressing of the occurrence of smoke includes reducing or stopping an EGR rate.

10. (Previously Presented) A fail-safe control method for an internal combustion engine comprising:

determining when a throttle valve in an intake system of the internal combustion engine is stuck in a fixed position;

controlling a throttle valve aperture to maintain the throttle valve aperture in the fixed position; and

operating a fail-safe control to ensure a prescribed torque in the engine in which the fail-safe control includes preventing a regeneration control of an exhaust micron particle collecting device in an exhaust system from regenerating when the throttle valve is determined to be stuck in the fixed position and switching to the fail-safe control.

11. (Cancelled)

12. (Previously Presented) A fail-safe control device for an internal combustion engine comprising:

- a throttle valve;
- a diagnostic for determining a position of the throttle valve; and
- a control unit for controlling a throttle valve aperture when the throttle valve is stuck in a fixed position by maintaining the throttle valve aperture in the fixed position, the control unit further performing a control for suppressing an occurrence of smoke by delaying a start of a fuel injection timing more than when normal control is performed.

13. (Previously Presented) A fail-safe control device for an internal combustion engine, comprising:

- a throttle valve;
- a diagnostic for determining a position of the throttle valve; and
- a control unit for controlling a throttle aperture when the throttle valve is stuck in a fixed position, the control unit performing a fuel injection control for suppressing an occurrence of smoke that includes a reserve fuel injection and a main fuel injection during a combustion cycle so that a reserve fuel injection timing is advanced and a main fuel injection timing is delayed as compared to when normal control is performed.

14. (Previously Presented) A fail-safe control device for an internal combustion engine, comprising:

- a throttle valve;
- a diagnostic for determining a position of the throttle valve;

a control unit for controlling a throttle aperture when the throttle valve is stuck in a fixed position; and

a control unit for suppressing an occurrence of smoke by dividing the injection into reserve fuel injection and main fuel injection so that a volume of reserve fuel injection is reduced or eliminated as compared to during normal control.

15. (Previously Presented) The fail-safe control device described in Claim 12, wherein

the control unit further performs a control for suppressing the occurrence of smoke by reducing or stopping an EGR rate.

16. (Previously Presented) A fail-safe control device for an internal combustion engine, comprising:

a throttle valve;

a diagnostic for determining a position of the throttle valve; and

a control unit for controlling a throttle valve aperture when the throttle valve is stuck in a fixed position,

the control unit being configured to be operatively coupled to an exhaust micron particle collecting device in an exhaust system that performs regeneration control while closing the throttle valve aperture and raising an exhaust temperature to eliminate exhaust micron particles collected in the exhaust micron particle collecting device, and the control unit being further configured to switch from the regeneration control to a fail safe control when the throttle valve is diagnosed as being stuck.